

**Amendments to the Claims**

This listing of claims replaces all prior versions and listings of claims in this application.

**Listing of Claims**

WHAT IS CLAIMED IS:

1. (Previously presented) An adaptive transport decoder, comprising:
  - a source of a first stream of packets, each including a payload, and having a first transport protocol;
  - a source of a second stream of packets, each including a payload, and having a second transport protocol;
  - a protocol decoder, coupled to the first and second packet stream sources, for extracting the respective payloads from the packets from a selected one of the first and second packet stream sources ;and
  - a selector, having respective input terminals coupled to the first and second packet stream sources, and an output terminal coupled to the protocol decoder, and responsive to a select signal for coupling one of the first and second packet stream sources to the protocol decoder
2. (Cancelled)
3. (Previously presented) An adaptive transport decoder, according to claim 1
  - wherein the protocol decoder comprises a processor, responsive to a first control program for processing the packets from the first packet stream source to extract the respective payloads, a second control program for processing the packets from the second packet stream source to extract the respective payloads, and a third control program for switching between the first control program and the second control program.

4. (Previously presented) The adaptive transport decoder of claim 3 wherein:

the processor includes a memory for storing the first, second and third programs; and each of the first and second control programs comprises:  
a packet handler; executed in response to each received packet;  
a plurality of interrupt drivers, stored in the memory at respective locations, called by software interrupt;  
an interrupt vector, stored at a fixed, predetermined location in memory, including a plurality of entries, each containing a pointer to a respective location of an interrupt driver.

5. (Previously presented) The adaptive transport decoder of claim 4 wherein:

the third control program switches between the first and second control programs by moving the interrupt vector of one of the first and second control programs to the fixed predetermined location in the memory, and simultaneously moving the interrupt vector of the other one of the first and second control programs to another location in the memory.

6. (Previously presented) The adaptive transport decoder of claim 4 wherein each of the first and second control programs further comprises a buffer for storing the respective extracted payloads at a location in the memory.

7. (Previously presented) The adaptive transport decoder of claim 6 wherein:

the third control program switches between the first and second control programs by moving the interrupt vector of one of the first and second control programs to the fixed predetermined location in the memory, and simultaneously moving the interrupt vector of the other one of the first and second control programs to another location in the memory; and  
reallocating the buffer to a location in the memory.

8. (Previously presented) The adaptive transport decoder of claim 4 wherein:

the packet handler is an interrupt handler stored in the memory at a location; and

one of the entries in the interrupt vector points to the location of the packet handler.

9. (Previously presented) The adaptive transport decoder of claim 8 wherein:

each of the first and second packet stream sources generates an interrupt request signal when a packet is available;

the entry in the interrupt vector pointing to the location of the packet handler is responsive to the interrupt signal from the selected packet stream source.

10. (Currently amended) An adaptive transport decoder comprising:

a source of a first stream of packets, each including a payload, and having a first transport protocol;

a source of a second stream of packets, each including a payload, and having a second transport protocol; and

a protocol decoder, coupled to the first and second packet stream sources, for extracting the respective payloads from the packets from a selected one of the first and second packet stream sources; and further comprising:

a selector, having respective input terminals coupled to the first and second packet stream sources, and an output terminal coupled to the protocol decoder, and responsive to a select signal for coupling one of the first and second packet stream sources to the protocol decoder; and wherein:

said protocol decoder further comprises a processor responsive to first, second and third control programs, the third control program is responsive

to the select signal to switch to the first control program when the first packet stream source is coupled to the protocol decoder ~~And~~ and to switch to the second control program when the second packet stream source is coupled to the protocol decoder.

11. (Previously presented) An adaptive transport decoder comprising:

a source of a first stream of packets, each including a payload, and having a first transport protocol;

a source of a second stream of packets, each including a payload, and having a second transport protocol;

a protocol decoder, coupled to the first and second packet stream sources, for extracting the respective payloads from the packets from a selected one of the first and second packet stream sources; and

a payload processor coupled to the protocol decoder for processing the respective payloads extracted from the packets from the selected packet stream source.

12. (Currently amended) An adaptive transport decoder comprising:

a source of a first stream of packets, each including a payload, and having a first transport protocol;

a source of a second stream of packets, each including a payload, and having a second transport protocol;

a protocol decoder, coupled to the first and second packet stream sources, for extracting the respective payloads from the packets from a selected one of the first and second packet stream sources;

a selector responsive to a select signal for coupling one of the first and second packet stream sources to the protocol decoder; and

each packet in the first and second packet streams further comprises a header containing information related to the payload;

the protocol decoder comprises a register for storing information from a header of a received packet; and

the protocol decoder accesses the register to obtain the information.